COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

July 13, 2005

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Harkless

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

Comments on Notes

IDFG has been without internet access so Russ Kiefer was unable to review the notes – if he or anyone else has comments on the July 6 meeting minutes, send them to Cindy Henriksen, COE.

USGS Study Results

Ken Tiffan, USGS, presented information from a study conducted in 2004 that looked at the effects of elevated flows on chum. His presentation is available on the TMT web page, linked to today's meeting agenda. Ken went through the details of the study, noting that 2004 was a low fish density year and that the study was designed to look at actual flows, not making assumptions about higher flows. The researchers looked at behavior of the fish and extracted velocity data from camera images. (A TMT member expressed interest in understanding the threshold of velocity at which chum will no longer spawn.)

Ken concluded:

- Increased flows may have temperature effects on spawning behavior and subsurface bed temperatures;
- Acoustic noise issues need to be resolved and hydrophone deployment can be improved;
- Low spawner density may have affected the apparent lack of spawning activity at higher riverbed elevations;
- The USGS is hoping to conduct the study again in 2005.

ACTION: Ken thanked the TMT for supporting the work last year and requested that the group support further studies this year, with timely feedback to allow researchers to set up the study sooner than last year. TMT will keep this issue on future agendas and provide input and feedback to researchers in September. In response to a question, Ken noted that the USGS is developing a 'manuscript' relative to habitat mapping, and is proposing to work with Battell on habitat and temperature data collection this year – they will keep FPAC and TMT informed of developments.

Dworshak Operations: SOR 2005-18

The salmon managers presented SOR 2005-18, recommending an increase in flows to 14 kcfs and targeting 46-48° outflow water temperatures at DWR through July 19 to stay ahead of higher temperatures at Lower Granite. They requested a TMT conference call to look at current

information and make further recommendations on July 20. It was noted that the primary drive for the request is temperature and that added flow also provides a benefit to fish.

Dave Statler, Nez Perce Tribe, recommended an alternative operation proposal: 12 kcfs outflows and colder water (43-45°) out of the project. The Nez Perce assumes that by mid-July many of the juvenile fall chinook in the Clearwater have actively migrated out of the system, so the proposed operation is an acceptable trade-off.

ACTION: After further discussion and a check-in with the hatchery at Dworshak, the salmon managers and action agencies agreed that Dave Statler's proposed alternative operation, 12 kcfs at 43-45° out of Dworshak over the next week, was acceptable to meet temperature needs at Lower Granite. The agreed-upon threshold temperature at Lower Granite was 67.5°, and anything higher would prompt the COE to increase outflows at Dworshak to 14 kcfs – no change would be made until Monday, July 18, 6AM, to allow particle travel time from Dworshak to Lower Granite. CRITFC also expressed agreement with the proposed operation. TMT will have a conference call on Wednesday, July 20, to look at current temperatures and make decisions about future Dworshak operations.

Modeling Results for John Day Pool

Jim Burton, Portland District COE, reported on results of modeling to show the effects of flow changes on the John Day pool. The results showed a slight change in average velocity with changes in flow, ranging from .02-.11, depending on where in the reservoir the measurement was taken.

ACTION: The COE agreed to check with Lauri Ebner, Portland District, on whether any 3-D modeling was available for velocity at John Day. (Update: The COE sent an email to TMT following the meeting, saying that this information is not available.)

Libby Summer Operations

Jim Litchfield, Montana, provided a letter from Montana Trout Unlimited to NPCC, clarifying TU's support for the Montana proposal for Libby/Hungry Horse summer operations, saying this is the best operation for river and reservoir fish. Jim also reported that the Kootenai Tribe has expressed concern if Montana's proposal is NOT implemented, as it would affect an ongoing nutrient study relative to endangered white sturgeon.

Cathy Hlebechuk, COE, reported that Libby was at elevation 2458.37' on July 10 and began releasing full powerhouse, 24 kcfs, which will continue until inflows recede. The COE plans to reduce outflows to about 17 kcfs, targeting end of August elevation 2439' (2004 BiOp operations), unless/until the region agrees on an alternative operation. Jim Litchfield raised the concern that the longer we wait to go to flat flows, the higher risk to meeting Montana's objectives through September.

Per discussions at TMT on July 6, the issue was elevated for discussion at an IT meeting on Thursday, July 14.

(**UPDATE**: IT met and agreed to give Montana an additional week to engage in discussions outside the Regional Forum. Montana will give a status report to TMT at the July 20 conference call, and if consensus cannot be reached then, IT has reserved a meeting for Thursday, July 21 at 9:30 AM to discuss the Montana proposal.)

Treaty Fishing: SOR 2005-C-2
Kyle Martin, CRITFC, presented this SOR for a two-week fishery, July 11-14 and July 18-22, with stable 1' elevations (not specific elevations) at Bonneville, The Dalles and John Day. The net fly count to date was 229 nets, most of which were at John Day.

The COE responded that they will provide a 1.5' range as a hard constraint, and 1' soft constraint. CRITFC expressed frustration that they continue to try to work with the COE on meeting the request and every year the COE goes back to an agreement made in 1998 between the COE and CRITFC.

ACTION: A teletype will be issued in the next day specifying the COE's intended operations relative to the request.

Cindy LeFleur, WDFW, reported that 2,000 summer chinook were caught last week during the tribal fishery; the allocation is 14,250 until August 1.

Status of Summer Operations
Jim Adams, COE, shared graphs and reported that Lower Granite is spilling to the gas cap, at one unit; Little Goose to 30% during the day and gas cap at night; Lower Monumental 24-hour to the gas cap; Ice Harbor switching between RSW and gas cap; and McNary to the gas cap (as of July 1).

Feedback on Emergency Protocols
The salmon managers have been discussing the action agencies' emergency protocols list at FPAC and will provide something when an agreed-upon list is available. In the meantime, the salmon managers recommended that the action agencies continue to use the living document as it is. These lists will be available on the TMT web page.

Operations Review
Reservoirs – Albeni Falls is at 2062-2062.5'. Dworshak is drafting .8-.9' per day. Grand Coulee is at 1289.3'. Hungry Horse is at 3558' and drafting 4.8 kcfs. Tony Norris, BOR, said there is no specific plan laid out for drafting Grand Coulee to 1278' at this time. A request was made to check in on Grand Coulee operations during the TMT call next week.

Fish – Juveniles: Subyearlings are passing the projects, at about 2,000 per day at Lower Granite and Little Goose. Numbers dropped at McNary on July 1 when the spill operation began. Adults: The actual summer chinook run is close to the projected number, around 60,000 counted at the mouth of the Columbia. Sockeye also are coming in close to their expected, at 71,000. Sport, non-tribal and tribal fisheries are on-going. Cindy LeFleur will provide an update on the Fall chinook run forecast at the July 27 TMT meeting.

Power system – The CGS is back on line.

Next Meeting, July 20 Conference Call, 9:00 am: Agenda items include:

- Libby/Hungry Horse Operations
- Dworshak Temperatures/Operations
- Grand Coulee Summer Operations

1. Greetings and Introductions.

The July 13 meeting of the Technical Management Team was chaired by Cathy Hlebechuk and facilitated by Robin Harkless. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at this meeting. Anyone with questions or comments about these minutes should contact Cindy Henriksen at 503/808-3945.

2. Results from USGS Study of the Influence of Elevated Flows on Chum Spawning Behavior at Ives Island.

Ken Tiffan led this presentation, titled "The Effects of Elevated Flows on Chum Salmon Spawning Behavior Below Bonneville. He touched on the following major topics:

- 2004 objectives – determine the flow and tailwater elevation at which chum salmon spawning behavior is altered, etc.
- Possible behavioral effects of elevated flows on chum salmon
- Requested water release pattern
- Hydrophone setup at Ives Island, 2004
- Typical acoustic array
- Fish collection and tagging
- Water elevations – base flow vs. high flow (photo)
- Chum redd constructed during a daytime high-flow test, which was subsequently dewatered (only one found)
- Daytime test – November 17, 2004 (map of fish movement)
- Nighttime test – November 18-19, 2004 (map of fish movement)
- Fish leaves array – November 16, 2004 (map of fish movement)
- Fish without a redd? (map of fish movement)
- Pre-test swimming (video clip from acoustic camera)
- Maximum flow swimming (video clip from acoustic camera)
- Change in water velocity at Ives Island spawning area – up to 1 meter per second at maximum flow, about 0.3 mps at base flow
- Effect of high flow on chum salmon digging activity, 2004 (graph) – saw a slight decline in digging behavior at highest flows
- Change in Bonneville tailrace elevation vs. median distance moved (graph)
- Percent of distances vs. distance (graph) – most fish are not moving far, although larger flows produce greater movement
- Flow and temperature over time, November 26-27 (graph)
- Flow and temperature over time, December 11-12 (graph)
- Study ended prematurely on December 9 following flows of 243 Kcfs
- Conclusions: elevated flow events may have temporary effects on spawning behaviors and subsurface bed temperatures; acoustic noise issues need to be resolved and hydrophone deployment can be improved; relatively low spawner density in 2004 may have affected the apparent lack of spawning activity at higher riverbed elevations; study should be repeated in 2005.

What was the advantage of the acoustic tags over radio tags? Paul Wagner asked. The acoustic tags give us two-dimensional data, Tiffan replied – it's a powerful tool in an area this size. Did you lose equipment when flows came up? Ron Boyce asked. No, but some of our equipment was damaged, Tiffan replied. Boyce suggested that the 2005 study include higher-flow tests, if possible; Tiffan agreed that that would be optimal. In response to a question from Nic Lane, Tiffan said this is a BPA-funded study. In response to another question, Tiffan said USGS now has four years of GPS chum redd location data.

3. Dworshak Summer Operations.

On July 12, the action agencies received SOR 2005-18. This SOR, supported by USFWS, IDFG, WDFW, ODFW, NMFS, the Shoshone-Bannock Tribes and CRITFC, requests the following specific operations:

- Increase Dworshak outflows to 14 Kcfs immediately and continue for a period of one week (until July 19). Continue target of 46-48 degree F. outflow water temperature over the specified time.

Wills went briefly through the contents of this SOR, the full text of which is available via hot-link from today's agenda on the TMT homepage.

Wills noted that Lower Granite water temperatures are now exceeding 19 degrees C; given expected air temperatures over the next week, it is the salmon managers' recommendation that Dworshak outflow be increased at this time, to help us stay ahead of the water temperature curve. The primary driver for this SOR is temperature, although the increased flow will also be beneficial, he added. We can then revisit this operation at a conference call next week, said Wills.

Did you consider reducing outflow temperature, as an alternative to increasing flow? Jim Adams asked. We did, but the Nez Perce Tribe has expressed concerns about colder temperatures in the Clearwater River, Wills replied. Adams noted that the Corps is concerned about running out of water in the middle thermocline; the Corps would prefer to extract colder water to preserve some of the available water in the 45-48-degree F band. It's just a consideration for you to think about, Adams said.

Dave Statler said that, typically, July 15 is the target date at which Dworshak outflow temperatures would be decreased. Given how close we are to that date, I would offer an alternative, he said – select colder water from Dworshak (43 degrees F) and release a lesser volume – 12 Kcfs. I think that would provide as much cooling at Lower Granite as a higher volume of warmer water, Statler said. Kyle Martin noted that Lower Granite water temperatures are currently running about 1 degree C warmer than the temperature model has been predicting.

Boyce noted that Lower Snake flows are also a concern; they are currently below 40 Kcfs at Lower Granite. Any additional flow we can get right now would also be beneficial to fish, he said. Hlebechuk noted that the current inflow forecast shows a need to release an average of about 11 Kcfs from Dworshak between now and August 31 in order to preserve 200 kaf of storage for use during September. As always, it's a balancing act, she said.

After a brief discussion, it was agreed that the action agencies will implement Statler's proposed operation, and will release 12 Kcfs of 43-45-degree F water from Dworshak, effective today. Russ Kiefer added that, if water

temperature rises above 67.5 degrees F at Lower Granite tailwater between now and next Wednesday's conference call, he would recommend that Dworshak outflow be increased to 14 Kcfs. No objections were raised to this suggestion.

Nic Lane noted that it will take at least three days to see the full effects of the colder Dworshak releases at Lower Granite. Hlebechuk said water particle travel time is 3-5 days between Dworshak and the Lower Granite tailrace. Based on that, Adams said that, in his opinion, it will take four days before the full effect of the colder releases from Dworshak is seen in the Lower Granite tailrace. It was agreed that the Corps will not deviate from the 12 Kcfs, 43-degree operation before this Monday morning, at which point the colder Dworshak water should have reached Lower Granite. Wills said Dworshak Hatchery personnel have told him that 43 degrees is the minimum workable release temperature from Dworshak.

4. Libby Summer Operations.

At last week's meeting, it was decided to elevate Montana's requested Libby summer operation to the IT for resolution, Harkless observed. Jim Litchfield distributed a letter, dated July 9, from Bruce Farling, executive director of Trout Unlimited, to Bruce Measure of the Northwest Power Planning & Conservation Council, expressing Trout Unlimited's support for Montana's proposed Libby operation. Litchfield added that he has also spoken to Sue Ireland, who said the Kootenai Tribe of Idaho is very concerned about the impacts of a sudden drop in Libby flow on September 1 on the tribe's ongoing nutrient study; they strongly support the Montana SOR. He added that the Montana SOR will be discussed and, hopefully, resolved, at tomorrow's Implementation Team meeting.

In response to a question, Litchfield said it is his understanding that Montana's planned monitoring program has now been staffed and funded, and is ready to get underway. Hlebechuk said Libby elevation peaked at 2458.37 on July 10. Inflows were above 40 Kcfs for part of June; the project released full powerhouse capacity until July 5, at which point Libby discharge was reduced to 19 Kcfs. There was rain, and inflows picked up to 30 Kcfs; we then went to full powerhouse capacity (24 Kcfs) last Sunday, and the project continues to release that volume. The Corps will continue to release full powerhouse capacity until the threat of fill-and-spill at Libby has passed. In response to a question, Hlebechuk said that, if the BiOp operation is implemented, a flat flow of about 17 Kcfs would be needed in order to draft Libby 20 feet by August 31. Outflows under the Montana SOR would, as previously stated, be about 5 Kcfs lower.

Harkless said the TMT will revisit this topic at next week's conference call.

5. Treaty Fishing.

On July 8, the action agencies received SOR 2005 C-2. This SOR, submitted by CRITFC, requests the following specific operations in support of the summer treaty fishery:

- From July 11 through July 14, and from July 18 through July 22, operate Bonneville, The Dalles (Celilo) and John Day pools within a 1.0 foot band.

Martin went briefly through the contents of this SOR, the full text of which is available via hotlink from today's agenda on the TMT homepage. He noted that 229 nets were observed in the Zone 6 pools during last week's net flight; the majority were located in John Day pool. Hlebechuk said the Corps has requested a 1.5-foot operating range in Bonneville pool, as per the 1998 agreement between Col. Mogren and Ted Strong. Martin replied that, as far as CRITFC is concerned, that agreement no longer exists; he expressed frustration that the Corps continues to ignore CRITFC's treaty fishery operational requests on that basis.

Norris noted that, at last week's TMT meeting, the Corps had agreed to implement a 1.5-foot hard constraint and a 1-foot soft constraint at the three Zone 6 pools. How well did the Corps do last week? Norris asked. Martin replied that he has not yet had an opportunity to review last week's data. To be clear, he said, the Corps intends to operate according to the Ted Strong letter? Correct, Hlebechuk replied, except that, as per your SOR, we are not specifying an elevation. In response to a question, Martin said another net flight is scheduled for today.

Cindy LeFleur noted that, last week, tribal fishers caught about 2,000 summer chinook; their total allocation is 14,250 out of a run of 60,000. The summer chinook management period ends on July 31, at which point the fall chinook management period will begin. Martin added that, in all likelihood, CRITFC will be submitting one more treaty fishery SOR covering the last week in the month.

6. Status of Summer Operations as a Result of Recent Court Ruling.

Hlebechuk said the Snake River projects continue to operate one unit within 1%, and to spill the remainder of river flow up to the state TDG waiver limits. The current spill cap at Lower Granite is just over 40 Kcfs; because total river flow is less than 40 Kcfs, the project is not spilling to the gas cap. Lower Granite is also shifting between RSW and spill cap operations. Little Goose is spilling 30% of total river flow during the day and up to the gas cap at night. The spill cap at Little Goose is about 32 Kcfs. Larry Beck said it does appear that lowering Little Goose spill to 30% during the day has had a positive impact on adult passage. At Lower Monumental, the current gas cap is 24 Kcfs of spill; the project is spilling up to the gas cap 24 hours a day, whenever total river flow allows. At Ice Harbor, the project is shifting between RSW and gas cap spill,

currently, said Adams. At McNary, we are generating at the low end of 1% peak efficiency and spilling the remainder of total river flow. The McNary operation started July 1, added Hlebechuk.

7. NOAA Fisheries HEC RAS Model Results for John Day Pool.

Wagner noted that the purpose of this agenda item and modeling exercise was to determine the effects of Montana's proposed summer operations at Libby and Hungry Horse might have on water velocities through John Day pool. The Corps' Jim Burton led this presentation, touching on the following topics:

- Velocities increased from about 1 foot per second to 3.75 feet per second across the various flow scenarios.
- Average velocities at selected cross sections at flows ranging from 100 Kcfs to 325 Kcfs (table). The difference in velocity between 133 Kcfs and 140 Kcfs at river mile 291.92 (the head of the John Day pool) was 1.81 feet per second vs. 1.89 feet per second, a difference of 0.08 feet per second.
- At river-mile 217.01, just above John Day Dam, the difference between the two flow levels is 0.31 feet per second vs. 0.33 feet per second.

Litchfield noted that the 7 Kcfs difference in flow between 133 and 140 Kcfs is probably somewhat higher than the actual reduction in average flow he would expect to result from Montana's proposed operations. In response to a question, Tony Norris said that, based on actual (acoustic Doppler current profiler) data, the HEC RAS model results are pretty accurate.

The bottom line is that while the change in water velocity that would result from the 5-7 Kcfs reduction in lower river flow if the Montana proposal is implemented is small, it is real, said Wagner. In response to a question, Norris said this reduction in flow would likely add about 10 hours to the 200-hour water particle travel time through John Day pool.

8. Feedback on Emergency Protocols.

Wills said the emergency protocol list was discussed at yesterday's FPAC meeting, and there are still some disagreements among the salmon managers. We are continuing to try to develop a consensus agreement on the list from the salmon managers, he said; in the interim, we recommend that the action agencies continue to operate using the existing list. We'll give you our feedback as soon as we're able to reach agreement, he said.

9. Operations Review.

Albeni Falls is operating between 2062-2062.5 feet, its summer operating range, said Hlebehuk. At full load, Dworshak is drafting 0.8-0.9 feet per day. The

current Grand Coulee elevation is 1289.3 feet; Hungry Horse is at 3558 feet, releasing 4.8 Kcfs

Wagner said that, with respect to fish, subyearling chinook continue to pass the projects in significant numbers – about 2,000 fish per day at Lower Granite and Little Goose. Subyearling numbers have decreased at McNary, from more than 100,000 to about 30,000 – it appears that the peak of the subyearling outmigration has passed at McNary. LeFleur said that, currently, the summer chinook run is tracking to about 60,000 fish at the mouth of the Columbia, very close to the preseason prediction of 62,000. Sport and commercial fisheries are ongoing throughout the lower river. The summer steelhead run is tracking very close to the 10-year average, added Larry Beck.

Lane said CGS is back on-line; there are no significant power system issues to report.

10. Next TMT Meeting Date.

The next face-to-face meeting of the Technical Management Team was set for Wednesday, July 27. Meeting summary prepared by Jeff Kuechle, BPA contractor.

TMT Participant List

July 13, 2005

Name	**Affiliation**
Ray Gonzales	COE
Tony Norris	USBR
Paul Wagner	NMFS
Nic Lane	BPA
Ron Boyce	ODFW
Tim Heizenrater	PPM
Kevin Nordt	Mid-Cs
Ruth Burris	PGE
Cathy Hlebechuk	COE
Robin Harkless	Facilitation Team
Russ George	WMCI

Kyle Martin	CRITFC
Dave Statler	NPT
Tom Haymaker	PNGC
Russ Kiefer	IDFG
David Wills	USFWS
Cindy LeFleur	WDFW
Larry Beck	COE
Ken Tiffan	USGS
Brenda Anderson	BPA
Tina Lundell	COE
Jennifer Miller	Enchanted Rock
Chad Modini	COE
Dan Spear	BPA
Dave Benner	FPC
Margaret Filardo	FPC
Tom Le	PSE
Tom Lorz	CRITFC
Lee Corum	PNUCC
Bruce MacKay	Consultant
Jim Litchfield	Montana
Jim Adams	COE
Jeff Loughley	COE
Mike Buchko	Powerex